Fisheries and Oceans Pêches et Océans

Canadian Stock Assessment Proceedings Series 99/40

Évaluation des stocks canadiens Séries des comptes rendus 99/40

March Salmon Meeting

Proceedings of the Diadromous Subcommittee Regional Advisory Process

Gulf Fisheries Center
Miramichi Room
Moncton, N.B.

March 22 - March 26, 1999

Chairman:
J. Ritter

Department of Fisheries and Oceans
Science Branch, Maritime Region
Gulf Fisheries Centre
343 Archibald Street
Moncton, New Brunswick
E1C 9B6 Canada

February 2000

Canada

102-06212/

March Salmon Meeting

Proceedings of the Diadromous Subcommittee
Regional Advisory Process

Gulf Fisheries Center
Miramichi Room
Moncton, N.B.

March 22 - March 26, 1999

Chairman:
J. Ritter

Department of Fisheries and Oceans
Science Branch, Maritime Region
Gulf Fisheries Centre
343 Archibald Street
Moncton, New Brunswick
E1C 9B6 Canada

February 2000

TABLE OF CONTENTS

Table of Contents 3

Abstract / Resumé 4

Introduction 5

Peer Review – Rapporteur Reports 6

Appendix 1 – List of Participants 13

Appendix 2 – Invitation Letter 20

Appendix 3 – Meeting Schedule Agenda 21

Appendix 4 - List of Recommendations 24

Abstract

This Proceedings pertains to the March 22-26, 1999 meeting convened in Moncton to review new information pertaining to the status of the Maritimes Region's Atlantic salmon stocks and to discuss related information and issues pertinent to the upcoming ICES meeting, salmon conservation and the 1999-2000 work plans. This document records the review of the salmon stock assessment portion of the meeting only. The meeting resulted in only one Stock Status Report being produced for the Miramichi and other salmon stocks in Salmon Fishing Area 16. Forty individuals from a diversified range of interests and background knowledge participated in the meeting. Products from the meeting include several Research Documents, one Stock Status Report, one Fisheries and Aquatic Sciences Technical Report and this Proceedings document.

Résumé

Le présent compte rendu porte sur la réunion tenue du 22 au 26 mars 1999 à Moncton et qui avait pour but d'examiner de nouveaux renseignement sur les stocks de saumon atlantique de la Région des Maritimes et de discuter d'éléments d'information connexes ainsi que de questions pertinentes concernant la prochaine réunion du CIEM, la conservation du saumon et les plans de travail de 1999-2000. Il reflète uniquement la partie de la réunion qui traitait de l'examen de l'évaluation des stocks de saumon. La réunion a débouché sur la production d'un seul Rapport sur l'état des stocks visant les stocks de saumon de la Miramichi et d'autres parties de la zone de pêche du saumon 16. Quarante personnes, représentant un vaste éventail de disciplines et d'intérêts, y ont participé. Plusieurs documents de recherche, un Rapport sur l'état des stocks, un Rapport technique canadien des sciences halieutiques et aquatiques et le présent compte rendu sont issus de cette réunion.

Introduction

A meeting was convened March 22-26, 1999 at the Gulf Fisheries Centre, Moncton, New Brunswick, to:

- review outstanding issues and new information pertaining to the Atlantic salmon stocks of the Maritime Provinces available since the January 25, 1999 formal assessment of these stocks.

The formal assessment documents reviewed include updates on a number of stocks and issues including changes in acidification status within some Nova Scotia salmon rivers and an overview of freshwater flows and temperature conditions in 1998 within indicator rivers throughout the Maritimes. It was concluded that an updated Stock Status Report (SSR) was only required for the Miramichi and other salmon stocks of Salmon Fishing Area 16. Hence, this was the only SSR produced. All new scientific information presented during the review of Maritime salmon stocks and related environmental conditions were recommended for publication as either Research Documents or, in one case, a Fisheries and Aquatic Sciences Technical Report.

Forty individuals from a diversified range of interests and background knowledge participated in the meeting (Appendix 1). The invitation letters to referees and to the other meeting participants are included in Appendix 2. The meeting agenda is in Appendix 3 and a list of Research Recommendations and Fisheries Management Considerations are given in Appendix 4. The meeting was chaired by John Ritter.

Rapporteur Reports

Freshwater Environmental Conditions

Working Paper: **Hydrological Conditions for Atlantic Salmon Rivers in the Maritime Provinces in 1998.** RAP WP 99/106.

Author(s): Daniel Caissie

Referee(s): None identified

Rapporteur: Peter Hardie

Issues/Concerns: (Including response)

1. Can the total time (hours) that a river has remained above a particular temperature be determined from available data? *Response:* Yes data collection is hourly.
2. When does this temperature monitoring begin? *Response:* In May, following ice out until freeze up. Concerns expressed about missing data for winter, spring, and fall periods.
3. What are the prospects for collecting winter water temperatures, particularly during the transition period from open-water to freeze-up and freeze-up to open-water. *Response:* Freshwater temperatures are at or near zero for this period. Something more accurate than Vemco thermographs is necessary to monitor subtle temperature differences during this period. Difficulty exists in maintaining equipment during ice season.
4. What about chemical (water quality) monitoring, particularly pH has this been done? *Response:* Yes we have 9 years of monthly pH and other water chemistry parameters for Little Southwest Mirimachi and Catamaran Brook showing stable pH values in the range of 6.8 for Little Southwest with a seasonal depression near 5.0 during spring freshet.
5. What can be inferred from Catamaran Brook forestry-related sedimentation with respect to estuarine deposition of sediments? *Response:* Not much! We have identified sources, monitored events, measured quantities but what happens to it after leaving Catamaran is not known.
6. Is the future of remaining Environment Canada gauging stations at risk of being discontinued? *Response:* No, I believe those stations to be abandoned have already been removed and those that remain will remain.

Miramichi Atlantic Salmon Stock Status

Working Paper: **Stock Status of Atlantic salmon (*Salmo salar*) in the Miramichi River, 1998.** RAP WP 99/107.

Author(s): Gérald Chaput (presenter), D. Moore, J. Hayward, J. Sheasgreen, and B. Dubé

Referee(s): Peter Cronin

Rapporteur: Dave Moore

Issues/Concerns: (Including response)

1. Do the spawning requirements for the Miramichi River include tributaries below the junction of the Northwest and Southwest branches? The spawning requirements should not include these lower tributaries since returns are estimated upstream of them. *Response:* Agreed that Miramichi River requirements should equal only the sum of the conservation requirements of the Northwest and Southwest Miramichi rivers.
2. The traps used for the mark-recapture estimates of returns had lower efficiencies in 1998 than in other years. Could this have caused the returns to be underestimated. *Response:* Trap efficiencies, although lower than 1997, were in the range of what had been seen in the past. Trapping efficiencies are higher when discharge levels are below normal and salmon linger in the estuary. However, in 1998 the discharge levels were not low and salmon migrated upstream without being delayed.
3. The document attributes the higher numbers of salmon in headwater barrier pools in 1998 (over 1997) to higher discharge. Water conditions as a rule do not improve counts just change the timing of fish arrival at the barriers. *Response:* Agreed with this statement.
4. In this assessment, returns are estimated for data from large and small salmon combined. In previous assessments returns of large and small salmon are calculated separately. How would previous estimates have changed if they were calculated this way? *Response:* Agreed that data from previous years should be reanalyzed and the results included in the final document.
5. Text tables need to be numbered to allow readers to reference them.

Consensus:

The manuscript is a good report on the status of salmon in the Miramichi River and is appropriate as a DFO Research Document.

Research Recommendations:

1. Separate forecasts should be developed for the 3 components of the adult returns (1SW, 2SW, and previous spawners).

2. There is some evidence that Labrador ice cover in the spring influences run timing. This data should be used to aide in the interpretation of headwater barrier counts and their use for in-season forecasting.
3. Survival from 1st to 2nd spawning for consecutive and alternate spawners should be examined to see if alternate spawners have declines in abundance similar to maiden 2SW salmon.

Management Considerations:

1. There is an 11% chance that eggs in the returns of small and large salmon in 1999 will meet the conservation requirement of the Miramichi River.
2. Fry abundance in 1998 was lower than in recent years, in response to reduced egg depositions in 1997. Both fry and parr abundances in the Miramichi River remain at historically high levels.
3. 2SW salmon abundance was low in all assessed rivers in 1998. Previous spawners were the most important component of the large salmon returns. These previous spawners have provided a buffer in years when 2SW salmon abundance is low.

Other:

This document and others have been using the term recreational fishers to denote anglers. The reviewer objected to this term, preferring the use of the term "angler" for all recreational users of the resource and reserving the term "fisher" for commercial and food fishery purposes.

Buctouche Atlantic Salmon Stock Status

Working Paper: **Status of Atlantic salmon (*Salmo salar*) in the Buctouche River in 1998**. RAP WP 99/109.

Author(s): Gary Atkinson (presenter); G. Sanipass, V. LeBlanc, S. LeBlanc, and N. LeBlanc.

Referee(s): None identified.

Rapporteur: Shane O'Neil

Issues/Concerns: (Including response)

1. Rivers along the same coast have been closed to fishing based on the information available on the Buctouche (southeast NB). Buctouche is not expected to recover for some time, so are our expectations unrealistic? *Response:* Don't know, but it is an issue that needs to be addressed.
2. Why are you using the mean for calculating conservation requirements? *Response:* This is based on mean biological characteristics.
3. Would like to see number of eggs contributed by each age class. *Response:* Already present in summary sheet. Grilse only contribute 1% of eggs.

4. Unresolved whether you have an accurate habitat model? Either the habitat you measure is too large or it is poor quality and cannot carry the juveniles. Fry densities in 1998 are a substantial increase over other years. The juveniles responded to increased escapement in 1997. Or did they? *Response:* Unmarked fry were released into river. The figures in document assume 50% of released juveniles survived. Since we couldn't distinguish between marked and unmarked juveniles, we can't be certain that the increased fry levels in 1998 are the result of increased escapement.
5. Interesting to see how much your densities increased and if parr numbers are higher in 1999, then you have "proven" that the system can carry the additional juveniles. You are then back to suspecting that either your habitat area measure is too high or the escapement is just very low for reasons unrelated to habitat. *Response:* Agreed!
6. Important to carry forward that maiden 2SW returns were low and an exception in 1998. *Response:* Chaput responded that we could show similar data for all three rivers, the Tabusintac, Miramichi and Buctouche.
7. Concern was expressed that Kouchibouguac is different from the Buctouche and that the Buctouche may not be an appropriate index of NE-NB rivers. *Response:* The workplan for 1999 will address this issue.
8. Commitment that a river is an index river is important for long-range planning and funding. *Response:* No plan to dispense with index rivers but adjustments may be necessary about which index river is used for another river as more information becomes available.

Research Recommendations:

1. Operate at least one marking trap in the estuary from the first week of September through the first week of November, in conjunction with a counting fence upriver from the beginning of October through the first of November. Both large and small salmon should be marked in the estuary.
2. Continue electroseining to determine the extent of habitat use, validate spawning success, and monitor the survival of stocked juveniles.

Management Considerations:

1. The Buctouche River is used as an index river for New Brunswick Northumberland Strait rivers. It achieved only a third of conservation requirement in 1998, thereby failing to meet the requirement for this sixth consecutive year. Based on the average returns of the last five years, there is a 1% chance of meeting the conservation requirement in 1999.
2. An analysis of various management scenarios indicates that a full First Nation fishery (current allocations) and a grilse retention recreational fishery in 1999 would result in the loss of 25% of the potential egg deposition, with less than a 0.1% probability of achieving the conservation egg requirement. Even with all fisheries closed, the probability of meeting the requirement is only 1.9%.

Tabusintac Atlantic salmon Stock Status

Working Paper: **Status of Atlantic salmon (*Salmo salar*) in the Tabusintac River in 1998 and summary of the 1996 stock assessment**. RAP WP 99/110.

Author(s): Scott Douglas (Presenter); D. Swanson, R.G.Bradford, and M. Joe

Referee(s): Tim Lutzac

Rapporteur: Doug Aitken

Issues/Concerns: (Including response)

1. Forecast specified that the egg requirement would be met.
2. The allocation for Burnt Church First Nations should be shown in the report with the number of black and bright fish which were allocated clearly indicated. In addition, note that no black salmon were taken and that less than their allocation of bright fish were taken.
3. Indicate on the map where private water is.
4. Concerned that loss due to hook-and-release is less than the 3% used in the report because fisheries occur during the cool water periods of the spring and autumn. *Response:* Clients indicated at client consultation meeting that 3% was too low, particularly in the black salmon season in the spring. No data to support that loss is less than 3%.
5. Ratio to be shown in mark-and-recapture so that difference in the mark-and-recapture ratio is shown from one year to the next. *Response:* Different water flows affect trap efficiencies so issue is not clear and ratio would not contribute to understanding of stock status.
6. Other trapping methods could be used to improve trap efficiency.
7. Scale sample data should be read to indicate the difference over time of proportion at age in the returns.
8. Concerned that fecundity measure is from the Miramichi and that a Tabusintac fecundity may differ and needs to be estimated to ensure that egg deposition per fish is not being under estimated.

Research Recommendations:

1. Habitat survey method needs to be verified and vetting of use of habitat by juvenile.
2. To resume electrofishing surveys to estimate densities of juveniles. Data would be used to estimate smolt survival among other things.
3. Continue to estimate returns of adult salmon to the river.
4. Improve the capture efficiency of the recapture trap (consider side entry as opposed to "v" shaped).
5. In partnership with all client groups, develop new criteria for recovering tags in the event that sufficient recaptures cannot be obtained from the trapnet program or from the angling fisheries. Options could include swim-through snorkel counts or seining pools in non-tidal waters of the river.

6. Obtain hook-and-release mortality estimates that are specific to the Tabusintac River environment and its anglers.
7. Estimate fecundity for the stock from this river.
8. Participate in angling data survey by cooperating with the responsible agency or conducting an independent survey of catch and effort on the Tabusintac.

Management Considerations:

1. Close monitoring of harvest and recreational fisheries is recommended because forecasting for this system is not sound.
2. All indications are that spawning requirements will be exceeded in 1999.
3. Some uncertainty regarding sea-survival warrants careful consideration of allocations for harvest in 1999.

Acidification Within Some Atlantic Salmon Rivers Of Nova Scotia

Working Paper: **Acidification status within some Atlantic salmon rivers of Nova Scotia**. DFO Canadian Stock Assessment Secretariat Res. Doc. 99/XX

Author(s): Gilles L. Lacroix (presenter) and D. Knox

Referee(s): Shane O'Neil

Rapporteur: Gary Atkinson

Issues/Concerns: (Including response)

1. Walton Watt (DFO) had previously indicated that acidification in NS rivers was declining, which is not the implication here. The paper should emphasize that episodic acidity events are lethal to salmon. If any of Walton Watt's samples are directly comparable to those in this study, it would be useful to present such a comparison.
2. It would be useful to present the proportion by area of a given watershed that was lost as salmon habitat as a result of acidification (as opposed to proportion of sites sampled).
3. Mention should be made of factors other than precipitation and natural habitat (e.g. bogs) that might affect acidity within a watershed, such as mining activity and man-made impoundments.
4. An expanded discussion of the value of measuring dissolved organic carbon (DOC) should be included.
5. More elaboration on the nature of sea salt (acid fog) episodes would be useful. The cost of such an investigation was considered prohibitive.
6. Concerning the origins of DOC, more elucidation was felt to be necessary particularly with reference to the principal sources in the Southern Shore area (bogs), versus the Eastern Shore rivers (precipitation).
7. The paper should send a stronger message that many stocks in NS are on the brink of extirpation due to acidification.

Research Recommendations:

1. Extend the study to other watersheds for which we have little or no data.
2. If possible, identify point sources of man – made acidity.

Participant	Affiliation/Address	Telephone	Fax	E-Mail
Ritter, John	Manager Diadromous Fish Division Department of Fisheries and Oceans Science Branch Bedford Institute of Oceanography P.O. Box 1006 (1 Challenger Drive) Dartmouth, N.S. B2Y 4A2	902-426-3136	902-426-6814	RitterJA@mar.dfo-mpo.gc.ca
Aitken, Doug	Department of Fisheries and Oceans Science Branch, Diadromous Fish Div. Bedford Institute of Oceanography P.O. Box 1006 (1 Challenger Drive) Dartmouth, N.S. B2Y 4A2	902-688-1987	902-426-6814	AitkenD@mar.dfo-mpo.gc.ca
Amiro, Peter	Assessment Biologist Department of Fisheries and Oceans Science Branch, Diadromous Fish Div. Bedford Institute of Oceanography P.O. Box 1006 (1 Challenger Drive) Dartmouth, N.S. B2Y 4A2	902-426-8104	902-426-6814	AmiroP@mar.dfo-mpo.gc.ca
Anderson, Leroy	DFO, Mactaquac FCS 114 Fish Hatchery Lane French Village Yorkes, NB E3B 2C6	506-363-3126	506-363-4566	AndersonL@mar.dfo-mpo.gc.ca
Atkinson, Gary	Department of Fisheries and Oceans Science Branch, Diadromous Fish	506-851-2732	506-851-2147	AtkinsonG@mar.dfo-mpo.gc.ca

Participant	Affiliation/Address	Telephone	Fax	E-Mail
	Division 343 Archibald Street Moncton, N.B. E1C 9B6			
Bradford, Rod	Assessment Biologist Department of Fisheries and Oceans Science Branch, Diadromous Fish Div. Bedford Institute of Oceanography P.O. Box 1006 (1 Challenger Drive) Dartmouth, N.S. B2Y 4A2	902-426-4555	902-426-6814	BradfordR@mar.dfo-mpo.gc.ca
Cairns, David	Research Scientist Department of Fisheries and Oceans Science Branch, Diadromous Fish Division Box 1236 Charlottetown Prince Edward Island C1A 7M8	902-566-7825	902-566-7948	CairnsD@mar.dfo-mpo.gc.ca
Caissie, Daniel	Department of Fisheries and Oceans Science Branch, Diadromous Fish Division 343 Archibald Street Moncton, N.B. E1C 9B6	506-851-6287	506-851-2147	CaissieD@mar.dfo-mpo.gc.ca
Cameron, Paul	Department of Fisheries and Oceans Diadromous Fish Division, Science Branch 430 Adelaide Street, Unit 2 Dalhousie, N.B. E8C 1A8	506-684-6258	506-684-6259	CameronP@mar.dfo-mpo.gc.ca

Participant	Affiliation/Address	Telephone	Fax	E-Mail
Caron, Francois	Biologiste Faune et Parcs Québec Service de la faune aquatique 11e étage, boîte 92 675, boul. René-Lévesque Est Québec (Québec) G1R 5V7	418-521-3940	418-646-6863	Francois.caron@mar.gouv.gc.ca
Chaput, Gérald	Assessment Biologist Department of Fisheries and Oceans Science Branch, Diadromous Fish Division 343 Archibald Street Moncton, N.B. E1C 9B6	506-851-2022	506-851-2147	ChaputG@mar.dfo-mpo.gc.ca
Collette, Cathy	Fish and Wildlife Branch Natural Resources and Energy P.O. Box 6000 Fredericton, New Brunswick EB 5G1	506-453-2440	506-453-6699	Pcronin@gov.nb.ca
Cronin, Peter J.	Director of Fisheries Fish and Wildlife Branch Natural Resources and Energy P.O. Box 6000 Fredericton, New Brunswick EB 5G1	506-453-2440	506-453-6699	Pcronin@gov.nb.ca
Davison, Bev	Salmon Care Association Box 8, 172 Truro Heights Road Truro, N.S. B2N 5A9	902-354-5443		
Dedam, Tim	Eel River Bar First Nation SC 11 Main Street P.O. Box 1660	506-684-6277	506-684-6282	

Participant	Affiliation/Address	Telephone	Fax	E-Mail
	Eel River Bar, N.B. E0K 1B0			
Douglas, Scott	Student Acadia University Wolfville, N.S. BOP 1X0	902-542-2201	902-585-1059	
Fontaine, Pierre-Michel	Fédération Québec Saumon Atlantique (FQSA), Québec			
Fraser, Phil	New Brunswick Aboriginal Peoples Council SC 320 St. Mary's Street Fredericton, N.B. E3A 2S4	506-458-8422	506-451-6130	Mbapcafs@brunnet.net
Goff, Trevor	DFO, Mactaquac FCS 114 Fish Hatchery Lane French Village Yorkes, NB E3B 2C6	506-363-3126	506-363-4566	GoffT@mar.dfo-mpo.gc.ca
Hambrook, Mark	Miramichi Fish Hatchery 485 Route 420 South Esk, N.B. E1V 4L9	506-622-1781	506-622-6111	Hambrook@NBNET.NB.CA
Hardie, Peter	Department of Fisheries and Oceans Science Branch, Diadromous Fish Division 343 Archibald Street Moncton, N.B. E1C 9B6	506-851-6224	506-851-2147	Hardiep@mar.dfo-mpo.gc.ca
Hayward, John	Department of Fisheries and Oceans Science Branch, Diadromous Fish Division	506-778-2837	506-773-7015	Haywardj@mar.dfo-mpo.gc.ca

Participant	Affiliation/Address	Telephone	Fax	E-Mail
	P.O. Box 458 Miramichi, N.B. E1N 3A8			
Jones, Ross	Biological Technician Department of Fisheries and Oceans Science Branch, Diadromous Fish Division 343 Archibald Street Moncton, N.B. E1C 9B6	506-851-6441	506-851-2147	JonesR@mar.dfo-mpo.gc.ca
Lutzac, Tim	Department of Fisheries and Oceans Science Branch, Diadromous Fish Division 343 Archibald Street Moncton, N.B. E1C 9B6	506-851-2072	506-851-2147	LutzacT@mar.dfo-mpo.gc.ca
Marshall, Larry	Assessment Biologist Department of Fisheries and Oceans Science Branch, Diadromous Fish Div. Bedford Institute of Oceanography P.O. Box 1006, 1 Challenger Drive Dartmouth, N.S., B2Y 4A2	902-426-3605	902-426-6814	MarshallL@mar.dfo-mpo.gc.ca
Maybe, Jennifer	NB Trout Growers Association, Centreville			
Moore, Dave	Biological Technician Department of Fisheries and Oceans 343 Archibald Street Moncton, N.B. E1C 9B6	506-851-6873	506-851-2147	MooreD@mar.dfo-mpo.gc.ca
O'Neil, Shane	Assessment Biologist Department of Fisheries and Oceans	902-426-1579	902-426-6814	ONeilS@mar.dfo-mpo.gc.ca

Participant	Affiliation/Address	Telephone	Fax	E-Mail
	Science Branch, Diadromous Fish Div. Bedford Institute of Oceanography P.O. Box 1006, 1 Challenger Drive Dartmouth, N.S., B2Y 4A2			
Pettigrew, Tom	Department of Natural Resources and Energy P.O. Box 150 Hampton, N.B. EOG 1Z0	506-832-6055	506-832-6029	Tpettigrew@gov.nb.ca
Pickard, Russell	Department of Fisheries and Oceans Science Branch, Diadromous Fish Division 343 Archibald Street Moncton, N.B. E1C 9B6	506-851-2059	506-851-2147	PickardR@mar.dfo-mpo.gc.ca
Prevost, Etienne	Input as referee but not present Laboratoire d'Écologie Aquatique INRA 65, rue de Saint-Brieuc 35042 Rennes Cédex France	+33 99285248	+33 99285440	
Ross, Grant	Miramichi Watershed Management Committee 40 Greene Road Blissfield, N.B. E9C 1L4	506-365-2253	506-365-7134	
Seymour, Pam	Fish and Wildlife Branch Natural Resources and Energy P.O. Box 6000 Fredericton, New Brunswick EB 5G1	506-453-2440	506-453-6699	
Sheasgreen, Joe	477 route 420 South Esk, N.B.	506-778-2837		Sheasgreenj@mar.dfo-mpo.gc.ca

Participant	Affiliation/Address	Telephone	Fax	E-Mail
	E1V 4L9			
Stokesbury, Mike	Box 20, Borgald's Point Road Chester Basin, N.S. EOJ 1K0	902-542-2201	902-275-2541	1328@unb.ca
Sutherland, Danielle	DFO, Mactaquac FCS 114 Fish Hatchery Lane French Village Yorkes, NB E3B 2C6	506-363-3126	506-363-4566	SutherlandD@mar.dfo-mpo.gc.ca
Wheaton, Fred	Chairman Fisheries Committee New Brunswick Wildlife Federation De La Faune Du Nouveau-Brunswick 56 Drummond Street Moncton, N.B. E1A 2Z2	506-382-3507 (home)		
Whitelaw, John	Salmon Care Association Box 8, 172 Truro Heights Road Truro, N.S. B2N 5A9	902-354-5443		
Whoriskey, Fred	Vice President, Research and Environment Atlantic Salmon Federation P.O. Box 429 St. Andrews, N.B. EOG 2X0	506-529-1039	506-529-4985	Asfres@nbnet.nb.ca (office) Emerrill@nbnet.nb.ca
Wolverton, Don	NB Trout Grower's Association Centreville	506-392-6090	506-392-9092	

Invitation Letter

Fisheries and Oceans / Pêches et Océans

Science Branch
Maritimes Region
P.O. Box 550
Halifax, NS
B3J 2S7

March 15, 1999

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«Address2»
«City», «State»
«Postal_Code»

Dear «Title» «LastName»:

This letter is to invite you to a special scientific peer review session for the Atlantic salmon stocks of the Maritime Provinces. A description of the scope of the session and a draft agenda are attached.

The session will take place March 22-26, 1999, in the Miramichi Room (6th Floor) of the Gulf Fisheries Centre, 343 University Avenue, Moncton, N. B. It will commence at 10:30 a.m. on Monday, the 22nd.

You and/or representatives of your organization are welcome to come and participate in the discussion of those agenda items in which you have interest. We hope your interests will be represented. However, we are unable to assist with travel expenses.

Sincerely yours,

J. A. Ritter
Manager
Diadromous Fish Division

Canada

Agenda

MARCH SALMON MEETING

Date: March 22 – 26, 1999

Place: GFC, Miramichi Room, Moncton

Venue:

- Meeting will be a combination of a RAP stock status session for salmon (in support of assessments completed earlier in the year and to review new stock assessment methodology), a review of material going to the April meeting of the ICES Working Group on North Atlantic Salmon, a review, discussion and update of certain project activities (in support of work plans yet to be developed), and an exchange of information session.
- Only one Stock Status Report will be produced and that will be for the Miramichi and other salmon stocks of SFA 16. The remit (question) for this part of the meeting is "What are the status and outlook for the Miramichi and other salmon stocks of SFA 16?".

AGENDA

Time	Papers and Topics	Authors and Presenters	Referees
Monday, March 22nd			
10:30-11:00	Introductory Remarks	Ritter, John	
11:00-12:00	Restigouche Assessment ➢ Model used to estimate escapement ➢ Habitat estimates ➢ Conservation requirement	Chaput, Gérald	Caron, Francois Prevost, Etienne
12:00-13:00	Lunch		
13:00-14:30	Restigouche assessment continued		
14:30-16:30	Quebec Conservation Reference Point(s)	Caron, Francois and Fontaine, Pierre-Michel	
16:30-17:30	Atlantic salmon conservation requirements for Cape Breton Highland rivers and updated forecasts of returns for the Margaree River in 1999	Marshall, Larry	

Tuesday, March 23rd			
8:30-12:00	Miramichi Assessment ➢ '98 assessment ➢ pre-season forecast ➢ in-season forecast	Chaput, Gérald	Cronin, Peter
12:00-13:00	Lunch		
13:00-14:45	Updated assessments of Atlantic salmon, Saint John River drainages, 1998 ➢ update ➢ wild stock status and outlook for above-Mactaquac ➢ in-season forecast model for grilse ➢ Nashwaak, smolt and adult estimates ➢ Hammond River assessment	Marshall, Larry and Jones Ross	
15:00-16:00	Discriminating between wild and hatchery returns using scale patterns	Stokesbury, Mike	Claytor, Ross
16:00-17:00	Criteria for Striped Bass Stocking	Bradford, Rod And Cairns, David	
17:00-17:30	Private hatcheries and stocking for public fisheries	Ritter, John	
Wednesday, March 24th			
8:30-9:30	Freshwater Overview	Caissie, Daniel	
9:30-10:15	Tabusintac Assessment ➢ '96 & '98 Assessment	Douglas, Scott	Lutzac, Tim
10:30-11:00	Buctouche Assessment ➢ application as an index river	Atkinson, Gary	
11:00-12:00	Nepisiquit Assessment Planning ➢ what information we have ➢ where we are going next	Chaput, Gérald and Cameron, Paul	
12:00-13:00	Lunch		
13:00-14:00	Recruitment of the North American stock of Atlantic salmon	Amiro, Peter	
14:00-15:00	Acidification status within some Atlantic salmon rivers of Nova Scotia	Lacroix, Gilles	O'Neil, Shane
15:00-16:00	Stability indices for Atlantic salmon Stocks	Amiro, Peter	
16:00-17:00	Catch-up (as required)		

Thursday, March 25th			
8:30-12:00	ICES Preparation ➢ new approaches for estimating returning and spawning Atlantic salmon in SFAs 20, 21 and 23 in 1998 ➢ detectability of seals in sampling ➢ Gannet Impact on Salmon Recruitment	Marshall, Larry Cairns, David Cairns, David	
12:00-13:00	Lunch		
13:00-14:30	Seminar	Conover, David	
15:00-16:30	Historical relationship between spraying in Atlantic Canada's forests and subsequent salmon returns	Fairchild, Wayne	
16:30-17:30	Review of SFA 16 Stock Status Report		
Friday, March 16th			
8:30-11:00	Work Planning Items		
11:00-12:30	Wrap-up		

Research Recommendations

Miramichi Atlantic Salmon Stock Status

1. Separate forecasts should be developed for the 3 components of the adult returns (1SW, 2SW, and previous spawners).
2. There is some evidence that Labrador ice cover in the spring influences run timing. This data should be used to aide in the interpretation of headwater barrier counts and their use for in-season forecasting.
3. Survival from 1st to 2nd spawning for consecutive and alternate spawners should be examined to see if alternate spawners have declines in abundance similar to maiden 2SW salmon.

Buctouche Atlantic Salmon Stock Status

1. Operate at least one marking trap in the estuary from the first week of September through the first week of November, in conjunction with a counting fence upriver from the beginning of October through the first of November. Both large and small salmon should be marked in the estuary.
2. Continue electroseining to determine the extent of habitat use, validate spawning success, and monitor the survival of stocked juveniles.

Tabusintac Atlantic Salmon Stock Status

1. Habitat survey method needs to be verified and vetting of use of habitat by juvenile.
2. To resume electrofishing surveys to estimate densities of juveniles. Data would be used to estimate smolt survival among other things.
3. Continue to estimate returns of adult salmon to the river.
4. Improve the capture efficiency of the recapture trap (consider side entry as opposed to "v" shaped).
5. In partnership with all client groups, develop new criteria for recovering tags in the event that sufficient recaptures cannot be obtained from the triplet program or from the angling fisheries. Options could include swim-through snorkel counts or seining pools in non-tidal waters of the river.
6. Obtain hook-and-release mortality estimates that are specific to the Tabusintac River environment and its anglers.
7. Estimate fecundity for the stock from this river.
8. Participate in angling data survey by cooperating with responsible agency or conducting an independent survey of catch and effort on the Tabusintac.

Acidification Status Within Some Nova Scotia Atlantic Salmon Rivers

1. Extend the study to other watersheds for which we have little or no data.
2. If possible, identify point sources of man – made acidity.

Management Considerations

Miramichi Atlantic Salmon Stock Status

1. The **Miramichi River** did not meet conservation requirements in 1998 for the second year in a row. The outlook for 1999, determined as the mean of returns in the previous five years, may be overly optimistic considering the downward trend in recent years. Regardless, a modest increase in returns of large salmon over 1998 is expected, but uncertainty exists as to whether the improved return will be sufficient to meet conservation requirements.
2. Small salmon returns to the **Miramichi River** in 1998 increased modestly over 1997 returns but were the second lowest since 1984. In 1998, the relative pre-fishery contribution to egg depositions by small salmon in the Miramichi could have exceeded 25% because of the low abundance of large salmon. The early-run small salmon have a higher female proportion (>25%) than fall-run fish (10%), and fisheries harvesting early-run small salmon in 1999 will have a greater impact on achieving conservation requirements than fisheries removing fall-run fish.
3. If fisheries proceed as last year on the Miramichi, the probability of achieving conservation requirements is about 51% on the **Southwest** and 68% on the **Northwest** tributaries; if all retention fisheries were closed, these probabilities rise to 61% and 79%. The probability of meeting conservation requirements appears relatively insensitive to various angling management scenarios for small salmon that considered early season hook-and-release followed by retention compared to early season retention followed by late-season hook-and-release. In both cases chance of meeting conservation requirements changed by only 2%.

Tabusintac Atlantic Salmon Stock Status

1. Close monitoring of harvest and recreational fisheries is recommended because forecasting for this system is not sound.
2. All indications are that spawning requirements will be exceeded in 1999.
3. Some uncertainty regarding sea-survival warrants careful consideration of allocations for harvest in 1999.

Buctouche Atlantic Salmon Stock Status

1 The **Buctouche River**, an index river for New Brunswick Northumberland Strait rivers, achieved only a third of conservation requirement in 1998, thereby failing to meet the requirement for the sixth consecutive year.
2. An analysis of various management scenarios indicates that a full First Nation fishery (current allocations) and a grilse retention recreational fishery in 1999 would result in the loss of 25% of the potential egg deposition, with less than a 0.1% probability of achieving the conservation egg requirement. Even with all fisheries closed, the probability of meeting the requirement is only 1.9%.